# Pennsylvania

## Wind Powering America

Clean Energy for the 21st Century

Since earliest recorded history, wind power has been used to move ships, grind grain, and pump water. Today, wind power is also being used to provide electricity to homes, schools, businesses, and entire communities. More than half the United States have wind resources that could support the development of utility-scale wind power plants. In Pennsylvania, the northeast, southwestern, and central ridges produce enough wind over a 12 month period to supply a large percentage of the state's electricity.

The Pennsylvania Wind Energy Project was launched in 1999 with the installation of two 65-kilowatt wind turbines on 80-foot towers southwest of Hazleton, Pennsylvania. These turbines are expected to generate 200,000 kilowatt-hours (kWh) of wind energy each year, displacing conventional electric generation that would otherwise produce 140 tons of carbon dioxide—the primary source of global warming—800 pounds of nitrogen oxides and 1,900 pounds of sulfur dioxide—the major ingredients in acid rain and ground level ozone or smog.

In May 2000, the 10.4 megawatt (MW) Green Mountain Wind Farm officially began operation in Garrett, Pennsylvania. The Green Mountain Wind Farm, currently the largest wind farm in the Mid-Atlantic states, was developed by American National Wind Power Inc., DisGen, GreenMountain.com, and Nordex USA.

## Green Power

"Green Power" is power produced by renewable, environmentally friendly energy sources, as distinct from power produced by fossil fuel, nuclear, and other types of generators. In many states, customers can arrange to purchase a certain amount of "Green Power" (energy in kilowatt-hours) per month, for which they commonly pay a small premium to completely or partly offset any higher cost of renewable power sources.

Over 85,000 customers in Pennsylvania have switched to green power providers, and approximately 40,000 of these customers are using a Green-e certified product. Green-e products meet a set of standards established by the Environmental Protection Agency. One standard requires that at least 50% of the electricity supply for the product comes from renewable electricity resources. Many of the Federal buildings in Pennsylvania are supplied with 100% green power, and the Commonwealth of Pennsylvania is purchasing green power for 5% of its electricity needs.

In the Philadelphia area, more than 25 businesses have purchased green power generated by the wind turbines near Hazleton. Philadelphia's Sheraton Rittenhouse Square Hotel, the first environmentally-smart hotel in the United States, is purchasing 20,000 kWh of green power per month, making it the largest wind power user in the state.

## Wind Energy Production Incentives

### State—Net Metering

To encourage investment by individuals in small wind generating systems, many states have established net metering programs. The concept of net metering programs is to allow the electric meters of customers with generating facilities to turn backwards when their generators are producing more energy than the customers' demand. Net metering allows customers to use their generation to offset their consumption over the entire billing period, not just instantaneously. This offset would enable customers with generating facilities to receive retail prices for more of the electricity they generate. Pennsylvania's net metering program applies to all customer classes with systems up to 10 kilowatts in most of the state.

### Federal Tax Incentive

To ensure that the domestic wind energy industry continues growing and producing new high-tech jobs, boosting rural economies, and helping achieve

**By January 2000, the total U.S. installed wind energy capacity was 2500 MW. (See http://www.awea.org/faq/instcap.html) That's enough electricity to meet the needs of 600,000 to 800,000 typical U.S. homes.**

WIND POWERING AMERICA

# Pennsylvania

## Additional Resources

U.S. Department of Energy
Philadelphia Regional Office
1880 JFK Boulevard, Suite 501
Philadelphia, PA 19103
(215) 656-6978
http://www.eren.doe.gov/pro/

U.S. Department of Energy
Wind Energy Program
Forrestal Building
1000 Independence Ave., S.W.
Washington, D.C. 20585
(202) 586-5348
www.eren.doe.gov/wind

National Renewable Energy Laboratory
National Wind Technology Center
1617 Cole Boulevard
Golden, Colorado 80401
(303) 384-6979
www.nrel.gov/wind

American Wind Energy Association
122 C Street NW, 4th Floor
Washington, D.C. 20001
Phone (202) 383-2500
Fax (202) 383-2505
www.awea.org

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cleaner air, the Federal government established a production tax credit (PTC) that rewards energy production. The current PTC provides a 1.5 cents per kilowatt-hour credit (adjusted for inflation) for electricity generated from wind plants built before December 31, 2001. The credit enables the industry to compete with other generating sources being sold at 3 cents per kilowatt-hour. For more information about the tax credit visit http://www.awea.org/policy/index.html.

For information on other financial incentives available in Pennsylvania, see http://aceee.org/briefs/mktabl.htm or www.trfund.com/sdf/index.html.

## State Summary

**Installed Capacity—10.6 MW**
**Planned Capacity—26.2 MW**
**In-State Wind Energy Potential:**
**11,060 MW capacity after land-use and environmental exclusions**
**18.75 billion kWh per year electric energy**

## Installed Projects

Green Mountain Wind Farm, Garrett, PA
Installed Capacity—10.4 MW
Annual Output—25,000 MWh
Developer/Service Provider—American National Wind Power Inc., DisGen, GreenMountian.com, and Nordex USA
Number of turbines—8

Pennsylvania Wind Energy, Hazleton, PA
Installed Capacity—130 kW
Annual Output—200,000 kWh
Developer/Service Provider—Energy Unlimited, Community Energy/Conectiv
Number of turbines—2

Mount St. Benedict Monastery, Erie, PA
Installed Capacity—20 kW
Annual Output—(Being Upgraded)
Developer/Service Provider—Mount St. Benedict Monastery
Number of turbines—1

Andretti, Hope, PA
Installed Capacity—17.5 kW
Annual Output—6,000 kWh
Developer/Service Provider—Mario Andretti
Number of turbines—1

## Planned Projects

Mill Run Windpower LLC,
Fayette County, PA
Installed Capacity—15.6 MW
Annual Output—42,000 MWh
Developer/Service Provider—Atlantic Renewable Energy Corporation and International Wind Corporation
Number of turbines—10–15
Expected completion—12/00

## Key Contacts

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## Links

Citizens for Pennsylvania's Future
www.pennfuture.org

Green-e Renewable Energy Program
www.green-e.org

GreenPower Network
U.S. Department of Energy
www.eren.doe.gov/greenpower

National Wind Coordinating Committee
www.nationalwind.org

Utility Wind Interest Group, Inc.
www.uwig.org

Wind Energy Fact Sheets
American Wind Energy Association
www.awea.org/pubs/factsheets.html

Wind Energy Projects
American Wind Energy Association
www.awea.org/projects/index.html

Wind Powering America,
U.S. Department of Energy
www.eren.doe.gov/windpoweringamerica